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HOW 5G IS CHANGING EVERYTHING

# Emergency-response technology with a 5G upgrade is having an impact in places like hurricane-battered Florida

Clara McMichael    Dec 14, 2022, 12:18 PM



## [HOW 5G IS CHANGING EVERYTHING](#)

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**Telecommunications companies are outfitting existing tech like drones and body cameras with 5G.**

**It's likely to become commonplace that tools used by first responders and police will run on 5G networks.**

**This article is part of "[How 5G Is Changing Everything](#)," a series about transformational 5G tech across industries.**

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In September, Hurricane Ian struck Florida as a destructive Category 4 storm, causing at least 148 deaths and over \$60 billion in damages. In the immediate aftermath, 444 cell signal transmission sites were out of service. AT&T responded by sending out its drone team, operating over a 5G network, to assess the damage. The drones took videos of the damage and streamed them back so technicians could figure out where repairs were needed.

In situations like Hurricane Ian and in other emergencies across the country, 5G is becoming an important tool in disaster-response efforts, whether those are local or widespread events.

Because 5G can process more data more quickly through larger radio frequency channels and targeted cell towers, it can help first responders stream video and communicate with each other faster, offer internet and telephone connectivity during power outages, and enable new technology that will help first responders do their jobs more efficiently. Video and two-way communications are

especially meaningful 5G applications, said Scott Agnew, assistant vice president of public safety policy and strategy with AT&T's FirstNet program, an emergency-response network.

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5G's higher speeds and lower latency mean videos can stream faster, downloads are quicker, and communication is practically instantaneous, according to the Federal Communications Commission. This can be useful for emergency responders who survey disaster areas and need to communicate with each other as quickly as possible. In an active shooter event, for example, 5G could allow the body camera of each responder to be transmitted to a central location and could map the location of each responder.

"Having a 5G network will allow the disaster managers to consider much more information as they prepare their disaster response," Ladimer Nagurney, professor emeritus of electrical, computer, and biomedical engineering at the University of Hartford, said. "They will be able to deploy personnel and equipment more efficiently."

Telcos are also developing ways to transmit 5G to first responders and people in disaster areas where there is a power outage.

In June, from a remote farmer's field in Missouri, where cows wandered through the grass, AT&T tested its first 5G drone. The pilots flew the drone, which is called a Flying COW (Cell on Wings), 300 feet up in the air and it began to transmit 5G coverage over roughly 10 square miles. According to Art Pregler, the director of strategic initiatives at AT&T, the drone performed exactly as planned, providing faster download and upload speeds.

The Flying COWs have been equipped with LTE, a precursor to 5G, for years and have been deployed by AT&T's emergency response network, FirstNet, since 2019. The drones are now 5G-enabled and will be able to provide even better connectivity in the future, the company says.

Helped along by 5G, new technology designed to speed up disaster response is under development. The Pacific Northwest National Laboratory has developed VitalTag, a bandage-like device that can pair with 5G. The device collects basic health information from its wearer that medical personnel can use to locate patients, identify their injuries, and triage their response. Verizon is working on a 5G-

connected ambulance that could stream data to hospitals while a patient is en route. And Qwake Technologies' tool C-Thru helps firefighters see and navigate better when going into a fire — with 5G, location tracking becomes more accurate and the helmets can stream video back to commanders.

Toronto-based startup Enerza is also utilizing 5G to improve disaster detection and response. The company created a robot named Boa that uses 5G to detect power-line issues and respond more quickly.

"We can detect, by the pole, where the next utility outage may come from," James Aein, CEO of Enerza, previously told Insider. "This wouldn't be doable without 5G. The alternative would have been data-dumping from each robot onto a router. Routers could take days or weeks to upload the data that Boa collects. 5G is instantaneous."

Experts say it will be a few years until these technologies are up and running, as networks are in the process of rolling out nationwide 5G coverage — a process that will require costly and widespread infrastructure updates like building more 5G cell towers. Beyond financial limitations, device compatibility and community pushback were cited among concerns to 5G adoption.

In the meantime, though, networks and companies say they're continuing to innovate and expect 5G to have a profound impact on disaster response.

"When 5G is fully implemented and a wide variety of products are introduced for the user, applications that are not even possible today will become commonplace," Nagurney said.

### *How 5G Is Changing Everything*

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